Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

DRAFT
Title V / Synthetic Minor, Construction / Operating
Permit: V-07-012
Intertape Polymer Group
Richmond, Kentucky 40475
Date: 8/22/2007
Elahe Houshmand, Reviewer

SOURCE ID:	21-151-00052
SOURCE A.I. #:	2827
ACTIVITY ID:	APE20050003

RENEWAL PERMIT

The permittee submitted a Title V construction / operating renewal application to the Division for Air Quality. In the renewal application, the source is requesting the following:

1. Re-authorization to construct Line 2, so solvent tape coating can occur. Line 2 will be identical to Line 1, but Line 2 will not have Applicator #2 Acrylic Tie Coat / Top Coat & Oven #2.
2. Addition of a new solvent recovery system for Line 2 (identical to the existing SRS for VOC recovery and control on Line 1).
3. Installation of new electric curing stations on Line 1 and Line 2.
   There are no emissions from these devices.
4. Introduction of a natural rubber coating to augment the hot melt adhesive coating currently used at the plant. The use of natural rubber is not expected to change the emissions of pollutants or particulate relative to the current emissions listed for hot melt adhesive.
5. Installation of a natural rubber chopping machine.
   This is an insignificant activity since the mechanical chopping machine creates marble sized pieces of rubber for processing on the line. This machine will take the purchased rubber and size it for use in the extruder similar to the current sizing and extrusion of hot melt pellets.
6. Removal of line 4 (blown film).
   The facility removed Line 4 and its equipment from the operation in 2005.

SOURCE DESCRIPTION:

Intertape Polymer Group (IPG) makes pressure sensitive tape by coating paper and film (SIC 2671). The source is located in Madison County that is classified as an ozone attainment area pursuant to Regulation 401 KAR 51:010. IPG is a major source for HAP and VOC. However, the source has voluntarily accepted a facility wide VOC limit of 225 tons per year to avoid applicability of 401 KAR 51:017, Prevention of significant deterioration of air quality, requirements. Currently the facility operates under permit # V-00-044 that was issued in December 2000. The V-00-044 permit authorized IPG to construct / operate web coating Line 2 and to operate web coating Lines 1, 3 and 4. However, IPG did not construct Line 2 within the allowable construction time frame of eighteen (18) months after issuance of the final permit# V-00-044. As a result with this renewal application,

the source requested the authorization to construct / operate Line 2.

Upon issuance of this renewal permit, the main sources of emissions are the three (3) web coating lines (Line 1-3) and their associated supporting equipment. All dedicated coating lines and supporting equipment are regulated by NSPS, 40 CFR Part 60 Subpart RR; MACT Regulation 40 CFR Part 63 Subpart JJJJ, and State Regulation 401 KAR 59:210. To avoid applicability of 401 KAR 51:017, there is also a facility wide VOC limitation. The facility uses pollution control and recovery equipment, specifically the SRS systems, to control the potential to emit of HAP/VOC (Toluene). The CAM Rule, 40 CFR Part 64, does not apply because as per §64.2 (b)(i), emission limitations or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 (NSPS) or 112 (MACT) of the Act are exempt from the CAM rule requirements. In particular, the source is exempt from the requirements of the CAM rule because of the applicability of MACT Regulation, 40 CFR Part 63 Subpart JJJJ which was proposed by the Administrator after November 15, 1990.

COMMENTS:

40 CFR 63 Subpart JJJJ - The permittee shall show compliance with 40 CFR 63 Subpart JJJJ, by meeting the emission limitations of § 63.3320(b) at an existing affected source (lines 1, 2 & 3). As long as addition of Line 2 does not trigger reconstruction as defined in § 63.2, Line 2 would be an existing source. Section 63.3300 defines an affected source as the 'collection of all web coating lines' at a facility. As stated in section 63.3310, a web coating line is defined as any number of workstations. This means that if the permittee had at least one web coating line in existence as of the proposed rule date (September 12, 2000), any line that the permittee adds is also classified as part of the affected source.

> § 63.3310 Definition - *Existing affected source* means any affected source the construction or reconstruction of which is commenced on or before September 13, 2000, and has not undergone reconstruction as defined in § 63.2.
>
> § 63.2 Definition - *Reconstruction*, unless otherwise defined in a relevant standard, means the replacement of components of an affected or a previously non affected source to such an extent that:
>
> (1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source.

40 CFR 63 Subpart EEEE - IPG does have processes such as storage tanks, transfer racks, transport vehicles, containers, and equipment leak components that by definition in 40 CFR 63 Subpart EEEE are subject to the OLD (Organic Liquid Distribution), but the affected facilities are not subject to control based on the criteria specified in Table 2 to this subpart and as a result are only subject to the requirements specified in §63.2343. .

> Storage tanks – There are two (2) storage tanks used for toluene (vapor pressure of ~ 0.5 psi @ 68^{o} F), each with a 7,500 gallon capacity. These storage tanks are not subject to control based on the applicability criteria for control in Table 2 to this subpart, items 1 through 6.
>
> Transfer racks – The transfer racks at this source only unload organic liquids and are not

subject to control based on the applicability criteria for control in Table 2 to this subpart, items 7 through 10.

Equipment leak components - Since there are no storage tanks or transfer racks subject to any control requirements, the length of time in service for any equipment leak component is not relevant and no requirements are specified in §63.2343 for pump, valve, and sampling connection that operates in organic liquids service.

> § 63.2346 (c) - Equipment leak components. For each pump, valve, and sampling connection that operates in organic liquids service for at least 300 hours per year, you must comply with the applicable requirements under 40 CFR part 63, subpart TT (control level 1), subpart UU (control level 2), or subpart H. Pumps, valves, and sampling connectors that are insulated to provide protection against persistent sub-freezing temperatures are subject to the "difficult to monitor" provisions in the applicable subpart selected by the owner or operator. <u>This paragraph only applies if the affected source has at least one storage tank or transfer rack that meets the applicability criteria for control in Table 2 to this subpart</u>.

Section 63.2343 defines what records are to be kept for those emission sources not requiring control, and Section 63.2343 exempts a facility from the submission of the semiannual Compliance reports when no controls, emission limits, or work practice standards are required for the existing equipment, and when no new equipment has been added.

40 CFR Part 60, Subpart Kb - The 7,500 gallons Toluene storage tanks are not subject to NSPS Subpart Kb because they are below the exemption level of 40 cubic meters (10,567 gallons).

Type of control and efficiency

- *Line 3* - Line 3 is an uncontrolled web coating line.
- *Lines 1 & 2* - For each line, the release coating applicator, oven #1, 175 gallon mixing tank, mixing room with a 6.6 gallon holding tank and surge pump are vented to a Solvent Recovery System that has a designed adsorption efficiency of better than 98% on VOC recovery.
- The hot melt adhesive applicator is uncontrolled.
- The resin storage tank and surge tank have no controls.
- The knockout pot on the extruder vacuum has been assumed to have an overall control efficiency of 70%.
- The baghouse on the extruder feed hopper is 1,900 scfm, has reverse jet bag cleaning, and has been assumed to have an overall control efficiency of 95%.
- The cyclone on the unload vacuum pump is 240 acfm and has been assumed to have an overall control efficiency of 98%.

Emission factors and their source

- Absent test results, an AP-42 derived emission factor of 2.8 lbs/1000 gallons input is used for mixing tank and room emissions calculations.
- The AP-42 derived emission factor of 0.77 lbs/1000 gallons input is used for the 7,500 gal storage tank emissions calculations.
- All organic emissions from hot melt adhesive extrusion have been assumed to be particulate matter. The resins and other materials used in the adhesive are solids at ambient temperatures.

Therefore, the organic vapors generated in the process will not remain vapors. Additionally, the vapor generation rate appears to be negligible based on an engineering evaluation by the Division.

- Emissions from loading of the resin silos have been estimated based on the emission factors for concrete and cement weigh hoppers developed by the Midwest Research Institute. PM emissions are estimated at 0.02 lb/ton processed and PM_{10} emissions are estimated at 0.01 lb/ton processed. With properly operated and maintained cyclones and filters, these emissions will be negligible.
- The supporting resin tanks have been assumed to have negligible associated emissions since no VOCs are present.
- Other portions of the hot melt extrusion system are not vented to the atmosphere and as a result, emissions from the units have been assumed to be negligible.
- Ovens, heaters, and boiler use natural gas. Emissions are calculated using AP-42, emission factors for natural gas combustion in small boilers.
- MSDS & Engineering Evaluations.

APPLICABLE REGULATION:

Regulation **401 KAR 60:005**, 40 CFR Part 60 standards of performance for new stationary sources, applies to sources that are subject to regulation **40 CFR 60 Subpart RR**, Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations, and other non-applicable subparts of 40 CFR Part 60.

Regulation **401 KAR 59:210**, New fabric, vinyl and paper surface coating operations applies to each affected facility part of a major source in a county designated attainment commenced on or after June 24, 1992.

Regulation **401 KAR 59:010**, New process operations applicable to each affected facility associated with a process operation which is not subject to another emission standard with respect to particulates in Chapter 59 of 401 KAR commenced on or after July 2, 1975.

Regulation **40CFR Part 63, Subpart JJJJ**, National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating; applies to each new and existing (*) facility that is major source of HAP, at which web coating lines are operated. The affected source subject to this subpart is the collection of web coating lines at the source (§63.3300).

* Existing affected source means any affected source the construction or reconstruction of which is commenced on or before September 13, 2000.

Regulation **401 KAR 59:015**, New indirect heat exchangers, applicable to affected facilities with a capacity of 250 million BTU per hour heat input or less commenced after August 9, 1972, limits particulate and sulfur dioxide emissions.

Regulation **40 CFR Part 63, Subpart EEEE,** National Emissions Standards for Hazardous Air Pollutants: Organic Liquids Distribution; applies to the collection of activities and equipment used to distribute organic liquids into, out of, or within a facility that is a major source of HAP. The affected source is all storage tanks storing organic liquids, all transfer racks at which organic liquids are unloaded out of transport vehicles and/or containers, all transport vehicles while they are loading or unloading organic liquids at transfer racks, and all equipment leak components in organic liquids service. An affected source is a new affected source if construction commenced after April 2, 2002.

Regulation **40 CFR 63 Subpart A**, General provisions applies as a result of regulation 40 CFR 63 Subpart JJJJ applicability.

EMISSION AND OPERATING CAPS DESCRIPTION:
The web coating lines are regulated under State Regulation 401 KAR 59:210, NSPS Regulation 40 CFR Part 60 Subpart RR, MACT Regulation 40 CFR Part 63 Subpart JJJJ and to avoid applicability of 401 KAR 51:017, Prevention of significant deterioration of air quality, the source has voluntarily accepted a facility wide VOC limit of 225 tons per year.

It is important to note that the VOC emissions limitations of State Regulation and NSPS Regulation apply to each web coating line individually. On the other hand the HAP emissions limitations of MACT regulation applies to the collection of web coating lines at the facility versus line by line.

A. 401 KAR 59:210 Emission Limitations:

Line 1, Line 2, and Line 3

The permittee shall demonstrate compliance with 401 KAR 59:210 by following either of these requirements:

(1) As per Section 6(1) of 401 KAR 59:210, any affected facility coating fabric or paper shall be exempt from Section 3 of this administrative regulation if the VOC content of coatings delivered to the applicators on the coating line is less than 2.9 lbs/gal, excluding water and exempt solvent; or

(2) Section 3 of 401 KAR 59:210 allows for compliance (Alternate Operating Scenario # 1) through achievement of the total VOCs input daily into the coating line (including mixing, storage, and clean-up) control efficiency of at least 85%.

B. 40 CFR Part 60 Subpart RR Emission Limitations:

Line 1 and Line 2

Monthly average limits on VOC emissions resulting from applicability of 40 CFR Part 60 Subpart RR applies to each web coating line:

(1) 40 CFR 60.442(a)(1) requires VOC emissions from the line applicators, flashoff areas, and ovens to be no more than 0.20 lbs/lb of coating solids applied on the line on a weighted average basis for each calendar month; or

(2) 40 CFR 60.442(a)(2)(i) allows for compliance (Alternate Operating Scenario # 2) through achievement of an overall VOC reduction from the line applicators, flashoff areas, and ovens of at least 90% as calculated over a calendar month.

Line 3

(3) The maximum input amount of solvent used on Line 3 under any operating scenario is less than 45Mg (50 tons) per 12 month period. Therefore, this affected facility (Line 3) is not subject to the emission limits of §60.442(a), however, the affected facility is subject to the requirements of all other applicable sections of this subpart. If the amount of VOC input exceeds 45 Mg (50 tons) per 12 month period, the coating line will become subject to §60.442(a) and all other sections of this subpart.

C. 40 CFR Part 63 Subpart JJJJ Emission Limitations:

Monthly average limit on HAP emissions resulting from applicability of 40 CFR Part 63 Subpart JJJJ applies to a collection of all web coating lines (Lines 1, 2, and 3) at the facility.

The permittee must limit organic HAP emissions to the level specified in paragraph 63.3320 (b)(1), (2), or (3).

(1) No more than 5 percent of the organic HAP applied for each month (95 percent reduction) at existing affected sources; or
(2) No more than 4 percent of the mass of coating materials applied for each month at existing affected sources; or
(3) No more than 20 percent of the mass of coating solids applied for each month at existing affected sources.

D. Synthetic Minor Emission Limitations:
The 12-month rolling total VOC emissions limitation of 225 tons taken as a Synthetic Minor limitation applies to the entire source.

PERIODIC MONITORING:
The source will submit semiannual compliance reports of any excess emissions; monitoring systems performance reports; failures to comply with the startup, shutdown, and malfunction (SSM) plan for control devices; and the nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

OPERATIONAL FLEXIBILITY:
Operational flexibility is built into the applicable 401 KAR 59:210 and 40 CFR 60 Subpart RR.

CREDIBLE EVIDENCE:
This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.